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10/606,024	06/25/2003	R. Victor Klassen	D/A2218I1	3942

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EXAMINER
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ART UNIT	PAPER NUMBER
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/606,024	KLASSEN ET AL.
	Examiner	Art Unit	
	Myles D. Robinson	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _21 November 2007_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 - 3_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1 - 3_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _25 June 2003_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's amendment was received on 11/21/2007, and has been entered and

made of record. Currently, **claims 1 – 3** are pending.

Response to Arguments

2.   Applicant's arguments with respect to **claims 1 – 3** have been considered but are

moot in view of the new ground(s) of rejection.

Claim Objections

3.   The following quotation of 37 CFR 1.75(a) is the basis of the objection:

> (a)   The specification must conclude with a claim particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention or discovery.

4.   *Claims 1 – 3* are objected to under 37 CFR 1.75(a) as failing to particularly point

out and distinctly claim the subject matter which the applicant regards as his invention

or discovery.

Claim 1 recites the limitation "the printer-ready image format" in line 12. There is

insufficient antecedent basis for this limitation in the claim. The Examiner suggests

either revising "a printer ready format" in lines 2 – 3 to read "a printer-ready image

format" or revising "the printer-ready image format in line 12 to read "the printer ready

image format" to coincide with the earlier limitation. All claims dependent upon this

claim suffer the same deficiency and, therefore, are objected to as well.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6.   **Claims 1 – 3** are drawn to **practical applications** that DO NOT produce a useful, concrete and tangible result.

In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible and concrete, but rather that the **final result achieved by the <u>claimed</u> invention** is "useful, tangible and concrete." <u>AT&T,</u> 172 F.3d at 1358, 50 USPQ2d at 1451.

The tangible requirement does not necessarily mean that a claim must be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a § 101 judicial exception, in that **the process claim must set forth a practical application** of that §101 judicial exception **to produce a real-world result**. <u>Benson,</u> 409 U.S. at 71-72, 175 USPQ at 676-77. In other words, the opposite meaning of "tangible" is "abstract." See MPEP 2106 IV.C.2 (2)(b).

According to claims 1 – 3, there is no tangible final result achieved by the method of operating a printing system. A print job, which has only been operated on or processed within a processing system, is not a real-world, tangible result. However, such a tangible final result could be, for example, the actual print out of the processed

print job by a printing device (e.g. printer, copier, facsimile machine) onto a print

medium (e.g. paper stock) or the actual display of the print job on a display (e.g. LCD

screen, monitor, touchscreen).

Claim Rejections - 35 USC § 103

7.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

8.   ***Claims 1 – 3*** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Christiansen *et al.* (U.S. Pre-Grant Publication No. 2004/0114170) in view of

Kobayashi *et al.* (U.S. Patent No. 6,101,576).

Referring to **claim 1**, Christiansen discloses a method of operating a printing

system for parallel processing a print job (*see Fig. 1 wherein raster image processing*

(RIP) system 100 processes print job 103 in parallel [paragraphs 0020 – 0021 and

0035]) with a plurality of processing nodes into a printer ready format for printing the

print job (*see Figs. 1 and 2 wherein RIP engines 109 rip print job 103 into a printer*

ready format for RIPped output file 123 for output to print device 126 [paragraphs 0021

– 0022 and 0025 – 0026]), said processing nodes communicating with a disk transfer

system (*see Fig. 2, memory 146 [paragraphs 0034 and 0091]*), comprising:

splitting the print job into a plurality of job chunks (*see Fig. 2, partition manager*

176 and see Fig. 14, steps 519 – 523 [paragraphs 0064 – 0065]), wherein the chunks

are selectively sized from at least one page to an entire size of the print job (*paragraphs*

0021 and 0023 wherein the partitions of print job 103 are analogous to the plurality of

job chunks of the print job) in accordance with predetermined factors for enhancing

page processing efficiency (*see Fig. 9 wherein a user provides pipeline acceptance*

criteria 299 for a respective pipeline 113 such that the criteria 299 is analogous to

predetermined factors [paragraphs 0041 – 0042] and see Figs. 15A - 15B wherein the

system determines partitions of the print job based upon criteria 299 [i.e. predetermined

factors] [paragraphs 0067 – 0071]),

selectively storing the job chunks and print-ready pages in the disk transfer

system wherein the transfer system data comprises an intermediary storage for data

transfer to selected processing nodes (*see Figs. 1, 2 and 14 wherein partitions are*

queued up within memory 146 to wait until at least one RIP engine 109 to which the

partition is assigned becomes available in step 506 [paragraphs 0022 and 0063])

including a RAM and physical disk (*see Fig. 2 wherein memory 146 comprises RAM*

and physical disks [e.g. hard disk drives, floppy drives, compact discs, magnetic tape

drives, etc.] [paragraphs 0034 and 0091]),

assigning the job chunks to respective processing nodes for processing the job

chunks into the printer-ready image format (*see Figs. 2 and 14 wherein print job*

preprocessor 173 determines which pipeline 133, which comprises RIP engines 109, to

which the print job 103 is to be applied in step 519 and then transfers the print job to

partition manager 176 [paragraph 0064] and see Figs. 2 and 15B wherein then partition

manager 176 applies partition to the pipeline 113 for RIPping in step 633 [paragraph

0073]) but does not explicitly disclose the method further wherein the memory is a

virtual disk transfer system, comprising monitoring available space in the virtual disk

transfer system <u>including detecting a data overflow in the RAM and storing new data in the physical disk until data storage in the RAM is available.</u>

Kobayashi discloses the method wherein the memory is a virtual disk transfer system (*see Fig. 1 wherein the printing cache memory control system comprising control unit 1, RAM cache 1b and hard disk 4 [i.e. physical disk] is analogous a virtual disk transfer system [column 1, line 61 – column 2, line 12]*), comprising monitoring available space in the virtual disk transfer system <u>including detecting a data overflow in the RAM</u> (*see Fig. 1 wherein control unit 1 monitors the printing cache memory system such that control unit 1 detects whether RAM cache 1b is full or not [column 2, lines 23 – 29] and then uses hard disk 4 for storing overflow [column 2, lines 5 – 12]*) <u>and storing new data in the physical disk until data storage in the RAM is available</u> (*column 2, line 37 – column 3, line 9*).

Christiansen and Kobayashi are combinable because they are from the same field of endeavor, being high-speed processing print systems. At the time of the invention, it would have been obvious to one of ordinary skill in the art to include a virtual memory system, which comprises a high-speed, high-accessible RAM cache in conjunction with a disk cache, along with a conventional high-speed processing print system. The suggestion/motivation for doing so would have been to raise the speed at which image data is produced in order to provide higher printing and display speeds within conventional printers, as suggested by Kobayashi (*column 1, lines 11 – 29 and 61 – 62*).

Referring to **claim 2**, Kobayashi discloses the method further comprising the step of preventing selected chunks from being added to the virtual disk transfer system when the monitored available space falls below a predetermined <u>threshold representative of the overflow</u> (*see Fig. 1 wherein one of ordinary skill in the art recognizes that the control unit 1 cannot write print data to RAM cache 1b once it has reached full capacity because RAM cache 1b is busy transferring its contents to hard disk 4*).

Referring to **claim 3**, Christiansen discloses the method further wherein the splitting step is preformed by a splitter (*see Figs. 2 and 15A – 15B, partition manager 176 [paragraphs 0064 – 0065]*) and further comprising the step of withholding chunk destinations from the splitter (*see Figs. 2 and 16 wherein RIP handler 179 receives the partitioned print job [i.e. plurality of job chunks] and assigns those partitions to RIP engines 209 for processing in such a manner that RIP handler 179, which determines the chunk destinations [i.e. pipeline 113 comprising RIP engines 109], functions properly without revealing to partition manager 176, which splits the print job into chunks, which one(s) of RIP engines 109 the partitions will be assigned [i.e. withholding chunk destinations from the splitter] [paragraphs 0074 – 0083]*).

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Klassen (U.S. Pre-Grant Application No. 2004/0196496 and U.S. Patent No.

7,161,705) discloses parallel printing systems by the one of the same inventors and the

same assignee as the instant application.

Glaspy *et al.* (U.S. Pre-Grant Application No. 2004/0136033) discloses an

apparatus for processing documents encoded in a page description language wherein a

reusable document component repository performs an automated least-recently used

RAM cache cleanup process when the RAM cache is close to full capacity to transfer

from the cache those documents that have not been accessed recently to long-term

storage (*see Abstract and Figs. 1 – 3*).

10.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Myles D. Robinson whose telephone number is (571) 272-5944. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler L. Haskins can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MDR   2/13/08

TWYLER LAMBERT HASKINS
SUPERVISORY PATENT EXAMINER